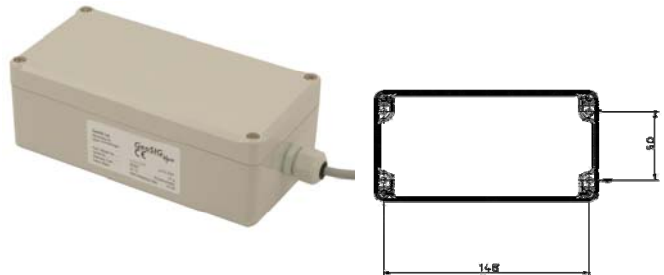


GMS-GPS Receiver

Features

- 1 microsecond time accuracy
- <3 m position accuracy DGPS
15 m position accuracy Non-DGPS
- <2 seconds re-acquisition
15 seconds warm acquisition
45 seconds cold acquisition
- Programmable update rate
from 1 second to 15 minutes
- Built in antenna
- Rugged, water resistant housing



Outline

The GMS-GPS is a state of the art GPS receiver module which employs GARMIN GPS-18 that is a complete GPS receiver and embedded antenna designed for a broad spectrum of system applications.

The GPS-18 tracks up to twelve satellites at a time while providing one-second navigation updates and low power consumption. Its far-reaching capability meets the sensitivity requirements of seismic applications.

The GPS-18 design utilizes the latest technology and high-

level circuit integration to achieve superior performance while minimizing space and power requirements.

The GMS-GPS is housed in a water-resistant case and designed to withstand rugged operating conditions. The host system may communicate with the GMS-GPS via a dedicated, compatible, bi-directional communication channel. Internal memory backup allows the GMS-GPS to retain critical data such as satellite orbital parameters, last position, date, and time.

Specifications GMS-GPS Receiver

General Characteristics

Receiver:	Differential-ready 12 parallel channel receiver tracks and uses up to twelve satellites to compute and update.
Cable Antenna	20 m standard, upto 70 m possible Built in
Acquisition Times	
Update Rate	1 sec, continuous
Acquisition*	<2 sec; re-acquisition 15 sec; warm 45 sec; cold 5 min; AutoLocate 5 min; SkySearch
Accuracy	
Time Accuracy	1 microsec
Position Accuracy	
Differential GPS (DGPS):	<3 m
Non-differential GPS:	< 15 m**
Velocity Accuracy	0.1 m/sec RMS steady state (subject to Selective Availability)
Dynamics	999 knot; 6 g
Power	
Input Voltage	4 - 5.5 VDC, typically 65 mA @ 12 VDC
Backup Power	Internal rechargeable battery to maintain the real-time clock for upto 3 weeks.

Interfaces

RS-232 compatible

Input

Initial position, date, and time (not required)

Earth datum and differential mode configuration command, almanac

Outputs

Position, velocity, and time

Receiver and satellite status

Differential reference station ID and RTCM data age

Geometry and error estimates

Raw measurement output for both psuedorange and phase data

PWR_DN power down power management under logic level control

Real-time Differential Correction input (RTCM format)

PPS (pulse per second) output

Environment/Housing

Size 80 mm x 160 mm x 60 mm

Weight 200 g, not including cable

Operating Temperature -30°C to +80°C (internal temperature)

Storage Temperature -40°C to +80°C

* Warm = all data known.

Cold = position, time and almanac known.

AutoLocate--= almanac known, position and time unknown.

SkySearch = no data known.

** Subject to accuracy degradation to 100m 2DRMS under the Selective Availability Program.